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09/885,354	06/20/2001	Bryan J. Zart	P-9476.00	4173

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EXAMINER

ZARROLI, MICHAEL C

ART UNIT PAPER NUMBER

2839

DATE MAILED: 01/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/885,354

Applicant(s)

ZART ET AL.

Examiner

Michael C. Zarroli

Art Unit

2839

*MW*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35, 38-43, 45 is/are rejected.
- 7) ☒ Claim(s) 36, 37, 44 and 46-48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8, 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **two different types of thermoplastic material** must be shown or the feature(s) canceled from the claim(s). The examiner recommends a cross-section drawing that shows the two different types of plastic. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention **to which the claims are directed**.

3. The abstract of the disclosure is objected to because it is too long. The abstract should be not more than 150 words. Also, the use of language that indicates an alleged benefit (line one, "improved"). Correction is required. See MPEP § 608.01(b).

***Claim Objections***

4. Claim 14 objected to because of the following informalities: In line one the phrase “assembly to coupled.” Appropriate correction is required.
5. Claim 25 objected to because of the following informalities: In the last line “adapted to coupled.” Appropriate correction is required.
6. Claim 27 objected to because of the following informalities: There is an antecedent problem with “the multiple conductive traces.” The examiner will interpret this claim to depend from claim 26 not 23. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

8. Claims 1-29 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preambles in claims 1 and 14 are misleading. The claims seem to recite the same connector assembly but claim 1 is for a device that is **implanted in a body** while claim 14 is for a device **connected to a device** that is implanted in a body.

Is the invention of claim 1-13 used in the same way as the invention in claims 14-29? The examiner will interpret that the connector described in the claims is for a circuit **outside the body** but in a connector connected to a device **that is inside the body**.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-6, 11-19 and, 28-29 (as best understood) rejected under 35 U.S.C. 102(e) as being anticipated by Ito.

Ito discloses a circuit assembly, comprising: a core element (23) formed of a first thermoplastic material; at least one circuit element (24, 25) capable of conducting electricity positioned in proximity to the core element; and an overmold structure (fig. 1) formed of a second thermoplastic material (col. 2 lines 42-49), the

overmold structure overlaying at least a portion of the core element and at least a portion of the at least one circuit element (figures 2-4).

Regarding claims 2 and, 15 Ito discloses that the surface of the core element includes predetermined ridge members (23a1) to enhance the bonding of the core element to the overmold structure.

Regarding claim 3 and, 16 Ito discloses that the core element includes a groove member (unnumbered fig. 2) to receive at least a portion of the at least one circuit element.

Regarding claims 4-6 and, 17-18 Ito discloses that the core element includes at least one receptacle (unnumbered fig. 3) adapted to receive a conductive member formed, at least in part, of a conductive material (col. 3 lines 24-25). A respective conductive member loaded into at least one receptacle (fig. 3). The at least one circuit element is electrically coupled to the respective conductive member loaded into the at least one receptacle (fig. 3).

Regarding claim 19 Ito discloses two receptacles (unnumbered figure 2).

Regarding claims 11-12, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, these limitations have not been given patentable weight.

Regarding claims 13 and, 28-29 Ito discloses that the mass of the core element is less than 50% or 30% the mass of the overmold (figures, especially 1 & 2).

11. Claims 30-35 and, 38-43 rejected under 35 U.S.C. 102(e) as being anticipated by Uchiyama.

Uchiyama discloses a process for making a circuit assembly (Field of Invention) comprising the methods of: a. forming a core element (8) of thermoplastic material; b.) positioning at least one circuit element (2A) adjacent to the core element; and c. forming (col. 1 lines 58-64) an overmold structure of thermoplastic material over at least a portion of the core element and at least a portion of the circuit element (fig. 2).

Regarding claim 31 Uchiyama discloses that the core is formed by injection molding (col. 1 lines 61-64).

Regarding claim 32 Uchiyama discloses that a machining process was used to form the core element (figures, machining would be necessary to finish).

Regarding claims 33 and 34 Uchiyama discloses that the method includes forming ridges (11) on the surface of the core element and aligning the circuit element on the surface of the core element using at least one of the ridges as a guide (fig. 3).

Regarding claims 35 and 38 Uchiyama discloses that the method includes the method of positioning the core element and the at least one circuit element in a mold and injecting thermoplastic material into the mold (col. 5 lines 60+).

Regarding claims 39 and 40 Uchiyama discloses that the method includes forming the core element to have a mass that is less than half of the mass of the overmold structure or, forming the core element to have a mass that is less than thirty percent of the mass of the overmold structure (fig. 2).

Regarding claims 41-43 Uchiyama discloses that the process further including the step of positioning at least one connector member adjacent to the core element before performing method c in claim 30 (col. 5 last paragraph). The method includes the method of forming the core element to have a receptacle to receive the connector member (figures 2 & 3). Finally Uchiyama discloses the process includes the method of electrically coupling the at least one connector member to the at least one circuit element (fig. 2).



***Claim Rejections - 35 USC § 103***

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 7 and 20 (as best understood) rejected under 35 U.S.C. 103(a) as being unpatentable over Ito as applied to claim 5 above, and further in view of Haeg et al.

Ito does not disclose a setscrew block and connector member.

Haeg discloses a conductive member that is a setscrew block connector member (abstract last sentence).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to design the conductive member of Ito as a setscrew block as taught by Haeg. The motivation/suggestion for doing so would have been ease in removal.

15. Claims 8 and 26-27 (as best understood) rejected under 35 U.S.C. 103(a) as being unpatentable over Ito as applied to claim 1 above, and further in view of Dailey et al.

Ito does not disclose that a circuit element is conductive traces.

Dailey discloses a circuit element that is conductive traces mechanically coupled (fig. 2). The traces are also electrically isolated (fig. 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to replace the circuit element of Ito in claim 1 with a conductive trace as taught by Dailey. The motivation/suggestion for doing so would have been to save space.

16. Claims 9, 22 and, 25 (as best understood) rejected under 35 U.S.C. 103(a) as being unpatentable over Ito as applied to claim 1 above, and further in view of Chinn et al.

Ito does not disclose a connector pad.

Chinn discloses a circuit element that is a connector pad (e.g. 304) that couples to an implantable medical device (figure 11C, 11D).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Ito by including a conductive pad as taught by Chinn. The motivation/suggestion for doing so would have been once again, to save space.

17. Claim 10 (as best understood) rejected under 35 U.S.C. 103(a) as being unpatentable over Ito as applied to claim 1 above, and further in view of case law.

Ito does not disclose that the thermoplastics are selected from the materials listed in claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select polyurethane or polysulfone, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

The motivation for selecting these materials would be that they are ubiquitous plastics that are inexpensive.

18. Claim 45 rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama as applied to claim 30 above, and further in view of Dailey et al.

Uchiyama does not disclose multiple traces.

Dailey discloses a circuit element that includes multiple conductive traces and further includes a method of removing a selected portion of the traces (figures 2 & 11).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the method disclosed by Uchiyama to include conductive traces that have a portion removed as taught by Dailey. The motivation/suggestion for doing so would have been that certain applications would not need the entire space saving trace.

***Allowable Subject Matter***

19. Claims 36-37, 44 and, 46-48 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form **including all of the limitations of the base claim and any intervening claims.**

20. Claims 21 and, 23-24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include **all of the limitations of the base claim and any intervening claims.**

21. The following is a statement of reasons for the indication of allowable subject matter: In combination with the claims from which it depends;

- The connector member conforming to one of two standards.
- The method including melting a ridge of the core element.
- The method includes heating the core before performing the injecting method.
- Performing the electrical coupling by soldering or welding the connector member to the circuit element.
- The mold includes at least one coupling member to couple to the core and in the method the coupling of the coupling member to the core element occurs before injecting.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zito et al, Bechtold et al and, Wellinsky et al teach a core element with circuit contacts and an overmold.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 703-305-0608. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Feild can be reached on (703) 308-2710. The fax

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phone number for the organization where this application or proceeding is assigned  
is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the receptionist whose telephone number is 703-  
308-0956.



Michael C. Zarroli  
Primary Examiner  
Art Unit 2839

  
MCZ